Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Establishing the Digital Opportunity Data Collection	)	WC Docket No. 19-195
	)	
	)	
Modernizing the FCC Form 477 Data Program	)	WC Docket No. 11-10
	)	
	)	

COMMENTS OF HUGHES NETWORK SYSTEMS, LLC

I. INTRODUCTION AND SUMMARY

Hughes Network Systems, LLC ("Hughes") submits these comments in response to the *Report and Order and Second Further Notice of Proposed Rulemaking* ("NPRM") adopted by the Federal Communications Commission ("FCC" or "Commission") in the above-referenced proceedings.[1] Hughes supports the Commission's important goal for the public to have access to accurate data regarding the availability of broadband.[2] Hughes also commends the Commission for recognizing that satellite broadband networks are fundamentally different from terrestrial networks, and for proposing to tailor the satellite reporting obligations in a way that reflects the characteristics of satellite networks.[3]

Hughes is the largest provider of satellite broadband services in the United States and around the world, with more than 1.4 million subscribers across North and South America and

---

[1] *Establishing the Digital Opportunity Data Collection; Modernizing the FCC Form 477 Data Program*, Report and Order and Second Further Notice of Proposed Rulemaking, WC Docket Nos. 19-195, 11-10, FCC 19-79 (rel. Aug. 6, 2019) ("NPRM").

[2] *See id.* at ¶ 1.

[3] *See id.* at ¶¶ 85-87 (seeking comment on satellite-specific reporting parameters).

more than 1.2 million in the United States. Hughes operates three geostationary orbit ("GSO") Ka-band satellites networks over the United States to provide ubiquitous broadband coverage of the continental United States, southeastern Alaska, Puerto Rico, and the U.S. Virgin Islands at Commission-defined speeds of 25/3 megabits per second ("Mbps") and above.[4] Hughes is currently constructing its next-generation, Commission-licensed, ultra-high density satellite, EchoStar XXIV (also known as Jupiter 3), which will provide service in the Americas at speeds of 100 Mbps or more.[5] EchoStar XXIV is expected to launch and begin commercial service in 2021.[6]

As discussed in more detail below, any reporting obligations adopted pursuant to the Digital Opportunity Data Collection ("DODC") must collect accurate data regarding the availability of broadband in a way that balances the burdens placed on service providers with the benefit achieved. Accordingly, the requirements should recognize the differences in technologies in the way such data is recorded and published. Furthermore, the Commission should avoid adopting requirements that may disproportionately burden certain types of technologies, such as satellite. For example, the idiosyncratic nature of terrain-related limits on satellite broadband service make identifying and reporting such instances impractical for satellite broadband service providers. Finally, in light of the relative insignificance of latency to the consumer experience of broadband, and the burden of such reporting when compared to the

---

[4] EchoStar Corp., Annual Report (Form 10-K) 4 (Feb. 21, 2019), available at https://www.sec.gov/ix?doc=/Archives/edgar/data/1415404/000141540419000003/sats12311810kdocument.htm.

[5] Press Release, *Hughes Selects Space Systems Loral to Build Next-Generation Ultra High Density Satellite* HUGHES, (Aug. 9, 2017), available at https://www.echostar.com/Press/Newsandmedia/Hughes%20Selects%20Space%20Systems%20Loral%20To%20Build%20Next-Generation%20Ultra%20High%20Density%20Satellite.aspx .

[6] *Id.*

benefits any reporting may produce, the Commission should refrain from increasing reporting burdens in order to reflect latency information. Hughes appreciates the Commission's consideration of its comments herein and looks forward to continuing to work with the Commission on this important issue.

II. REQUIRING SATELLITE BROADBAND PROVIDERS TO REPORT ON BEAM LOCATION OR CAPACITY WOULD NOT IMPROVE BROADBAND DATA.

As the NPRM correctly observes, satellite broadband networks are configured in a fundamentally different way from terrestrial broadband networks.[7] As the NPRM notes, satellite broadband providers use spot beams that enable coverage to large areas.[8] Further, the very nature of satellites avoids the need for extensive and costly terrestrial infrastructure build out. The Commission's current Form 477 broadband data reporting requirements include provisions that recognize these characteristics. For example, satellite broadband providers are permitted to report coverage in every census block in a state in situations where such reporting best reflects their coverage.[9]

In formulating the DODC reporting requirements, the Commission should recognize that satellite providers' beam capacity is not material to the general question of broadband availability in a given area as they offer service throughout the areas where they report service.[10] As Viasat has noted, satellite broadband providers allocate their network capacity based on

---

[7] *See* NPRM at ¶ 85.

[8] *See id*.

[9] Federal Communications Commission, *FCC Form 477 Instructions*, at 17 (Dec. 5, 2016), available at https://transition.fcc.gov/form477/477inst.pdf.

[10] *See* NPRM at ¶ 85.

reasonable assumptions about demand and need for services in particular areas.[11] In designing their networks to reflect reasonable assumptions about network loading, satellite broadband providers are no different from other types of network providers who are not required to report on network capacity for this purpose. For example, the NPRM itself discusses using network loading factors of 30 percent to determine mobile broadband network coverage contours.[12] Similarly, fixed broadband networks are engineered to meet varying quality-of-service levels depending upon decisions made by the provider about peak network demand.[13]

It also is unclear why capacity limitations would be material to this type of reporting. For example, the analysis mandated under Section 706 focuses on whether broadband service is being deployed in a "reasonable and timely" fashion – i.e., to meet demand.[14] Satellite broadband providers are doing so.[15] Further, the number of potential customers that a broadband provider could serve in a given area could matter in cases such as where the Commission seeks to allocate universal service support to the provider for serving customers in that area. In such cases, however, the Commission would be doing so based on a bid or proposal from the provider, not based on DODC reporting. Performance obligations in the support mechanism

---

[11] Letter from John P. Janka and Jarrett S. Taubman, Counsel, Viasat, Inc., to Marlene H. Dortch, Secretary, FCC, WC Docket No. 11-10, at 2-3 (filed July 16, 2018) ("Viasat Letter").

[12] NPRM at ¶ 116.

[13] *See, e.g.*, John Ulm and Tom Cloonan,"Traffic Engineering in a Fiber Deep Gigabit World," NCTA/CableLabs 2017 Fall Technical Forum, at 21 (2017) (discussing different network assumptions that can be made in a DOCSIS network depending on the desired quality of service), available at https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=10&cad=rja&uact=8&ved=2ahUKEwjx1KStx87kAhVH11kKHTGXBlcQFjAJegQIBRAC&url=https%3A%2F%2Fwww.nctatechnicalpapers.com%2FPaper%2F2017%2F2017-traffic-engineering-in-a-fiber-deep-gigabit-world%2Fdownload&usg=AOvVaw1Lb-DwJXvyvFlNawjy8eX1.

[14] 47 U.S.C. § 1302.

[15] Viasat Letter at 2-3.

would ensure that the broadband provider's bid or proposal would adequately account for its capacity in the area to be supported.

Finally, as the Commission notes, information regarding satellite beam location and capacity are highly competitively sensitive.[16] The capacity of the beam or beams available at a particular location also may change over time, and these changes, too, are competitively sensitive because they reveal the provider's responses to changes in demand for its services. As a result, any information regarding beam location or capacity could only be submitted based on strict assurances of confidentiality.

III. TERRAIN LIMITATIONS ON SATELLITE BROADBAND SERVICE ARE RARE AND TOO IDIOSYNCRATIC TO REPORT IN A NATIONAL DATA COLLECTION.

As the Commission notes in the NPRM, the record reflects that terrain-related limitations on satellite broadband providers' ability to serve customers are rare, and that satellite providers cannot readily identify such areas in advance.[17] In Hughes's experience, line-of-sight issues can be resolved in most instances through a variety of techniques, such as locating the antenna on a pole or at an alternative location on the customer's property. Hughes's installers are trained in implementing such techniques, which depend heavily on the specific conditions at the customer location.[18] Our internal order data shows that instances where line-of-sight issues result in no installation of service are very rare.

---

[16] *See* NPRM at n.241.

[17] NPRM at ¶ 87 & n.242; *see also* Viasat Letter at 3.

[18] *See, e.g.,* HughesNet, "HughesNet Residential Installation," available at https://legal.hughesnet.com/Documents/HughesNet_Residential_Installation.pdf.

Given the extremely limited and idiosyncratic nature of terrain-related limits on satellite broadband service, there is no practical way for satellite broadband providers to identify such instances in advance in order to reflect them in their polygon reporting. Because these instances are rare, the burden of attempting to do so (if it were even possible) is clearly unjustified.

IV. CUSTOMER DATA IS NOT A RELIABLE PROXY FOR BROADBBAND SERVICE AVAILABILITY

The lack of a customer in a given geographic area provides no information about the availability of satellite service in that area. As such, compiling that information would not be useful, and could potentially lead to an incorrect conclusion – that service is not available, when in fact, it is. Similarly, providing detailed information about the service levels customers have selected in a given area does not provide information about broadband availability, but is commercially sensitive and proprietary information to the service provider in question. There is no justification for treating satellite services differently in this regard.

V. REPORTING ON LATENCY SHOULD BE INFORMED BY THE RELEVANCE OF THE INFORMATION AND THE BURDEN OF REPORTING.

The NPRM notes that the "Commission considers latency as relevant in the provision of universal service support."[19] It is less clear, however, whether latency is as relevant to data collection on broadband availability. As Hughes has demonstrated in other proceedings, latency is not a highly significant factor to most consumers of broadband services.[20] As the Commission noted in the December 2018 *Measuring Broadband America Fixed Broadband Report*, while the higher latencies of geostationary satellite-based broadband "may affect the perceived quality of

[19] NPRM at ¶ 81.

[20] *See, e.g.*, Comments of EchoStar Satellite Operating Corporation and Hughes Network Systems, LLC, GN Docket No. 18-231, at 5-6 (filed Aug. 17, 2018).

some interactive services such as phone calls over the Internet, video chat and video conferencing, or online multiplayer games, … [n]ot all applications are affected by high latencies; for example, entertainment video streaming applications are tolerant of relatively high latencies."[21] Indeed, data show that the vast majority of consumer Internet traffic consists of non-latency sensitive applications including video downloads, web browsing, and email.[22] Satellite broadband customers are just as satisfied as the customers of other types of broadband providers,[23] and one leading satellite provider reports that a third of its current customer base had switched to its services from terrestrial broadband alternatives.[24] Given the relative insignificance of latency to the consumer experience of broadband, it would be difficult to justify increasing reporting burdens in order to reflect latency measurements.

---

[21] *Eighth Measuring Broadband America Fixed Broadband Report: A Report on Consumer Fixed Broadband Performance in the United States* at 8 (OET Dec. 2018), available at https://data.fcc.gov/download/measuring-broadband-america/2018/2018-Fixed-Measuring-Broadband-America-Report.pdf.

[22] *See* Cisco, Visual Networking Index: Forecast and Trends 2017-2022, at Table 15 (Feb. 27, 2019 udpate), available at https://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white-paper-c11-741490.html#_Toc532256805. *See also* 2015 Measuring Broadband Report at 7 n.3 ("video streaming alone already accounts for more than 60 percent of peak downstream traffic over fixed broadband facilities in North America").

[23] *Ex Parte* Letter from L. Charles Keller, Attorney for Hughes Network Systems, Inc. to Marlene H. Dortch, Secretary, FCC, WC Docket No. 10-90 (filed May. 11, 2016) ("Market research shows that satellite broadband customers are in the middle of the pack among all broadband customers in satisfaction levels. Data from Consumer Reports demonstrates that recent broadband consumer satisfaction surveys put ViaSat/WildBlue at or above the level of cable broadband and DSL."); Comments of ViaSat, Inc., WC Docket Nos. 10-90, 14-58, 14-259, at 5-6 (filed July 21, 2016) ("ViaSat CAF Comments") ("ViaSat's satellite broadband service … now has an overall user satisfaction rating that is on par with that of leading cable-based broadband service providers").

[24] ViaSat CAF Comments at 6.

In any event, however, any latency reporting that is required in nationwide broadband reporting must balance the burden of reporting against the limited benefits. In particular, the NPRM's questions about using the CAF-II latency reporting requirements as a framework for nationwide latency reporting must be rejected.[25] Those reporting requirements were subject to petitions for reconsideration regarding how latency should be measured, particularly in rural and insular areas.[26] The Commission has not yet resolved those petitions,[27] nor has the Office of Management and Budget approved the collection of those data—even in the universal service context. Moreover, the level of granularity of data that could be expected to be reported by recipients of universal service funding is very different from what could be expected from all providers, reporting on a nationwide basis. In sum, reporting latency in the DODC is unnecessary, but to the extent it is required, the burden of such reporting should be calibrated to match the very limited benefits.

---

[25] *See* NPRM at ¶ 81.

[26] *See, e.g.,* Application for Review and Request for Clarification of NTCA – The Rural Broadband Association, WC Docket No. 10-90 (Sept. 19, 2018); Application for Review of WTA – Advocates for Rural Broadband (WTA) , WC Docket No. 10-90 (filed Sept. 19, 2018); Petition of Hughes Network Systems, LLC, for Clarification, or in the Alternative, Reconsideration, WC Docket No. 10-90 (filed Sept. 19, 2018); Petition of Micronesian Telecommunications Corporation for Partial Reconsideration, WC Docket No. 10-90 (filed Sept. 19, 2018); Petition of USTelecom – The Broadband Association (USTelecom), ITTA – The Voice of America's Broadband Providers (ITTA), and the Wireless Internet Service Providers Association (WISPA) for Reconsideration and Clarification, WC Docket No. 10-90 (filed Sept. 19, 2018); Petition of Viasat, Inc. for Reconsideration, WC Docket No. 10-90 (filed Sept. 19, 2018).

[27] Commission staff recently released an order attempting to resolve satellite-related latency-reporting petitions. *Connect America Fund,* Order on Reconsideration, DA 19-911 (rel. Sept. 12, 2019). This order has not yet been published in the Federal Register.

VI. CONCLUSION

Hughes supports the Commission's goal of ensuring the availability of accurate broadband data and looks forward to continuing to work with the Commission on this proceeding. As discussed above, the Commission should ensure that the reporting obligations adopted pursuant to the DODC reflect the differences that exist between the technologies providing broadband services, and that the benefits produced from each obligation far exceed the burdens that may be placed on providers. By adopting obligations tailored to the above comments, the Commission can ensure that satellite broadband providers, and other broadband providers, are not disproportionately burdened or harmed.

Respectfully submitted,

By: /s/
Jennifer A. Manner
Senior Vice President, Regulatory Affairs
HUGHES NETWORK SYSTEMS, LLC
11717 Exploration Lane
Germantown, MD 20876
(301) 428-5893

September 23, 2019